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Evaluation of the village conservation model program in Mount Rinjani National Park using institutional sustainability principles

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Abstract. Conservation Village Model (MDK) is one form of institution since it contains various mechanisms and rules to ensure the operationalization of activities in the field. In this regard, the evaluation process plays a substantial role in ensuring the sustainability of MDK institutions. Thus, studies related to institutional performance are crucial to describe the conditions of MDK implementation in TNGR based on the principles of institutional sustainability. This research was done between April and July 2016, focusing on two villages (i.e. Santong Village and Pesangrahan Village) that have been designated by the Mount Rinjani National Park Office as recipients of the conservation village model program. The analytical tool used to evaluate institutional performance refers to the eight principles of sustainable institutional. The results showed that the implementation of MDK in Mount Rinjani National Park had a low institutional performance. Several facts revealed in this study indicate that so far, the implementation of MDK in TNGR has not accommodated several sustainable institutional principles. These include the absence of mechanisms that regulate the clarity of community access to the use of national parks, differences in program interventions with community preferences, and the absence of mechanisms on benefit cost-sharing and dispute resolution at the operational level.

1. Introduction

The Conservation Village Model Program is a form of an institution because it includes various mechanisms and rules made to ensure the operationalization of activities in the field. North (1990) argues that the institution is the rule of the game, which directs actors to achieve common goals [1]. The existence of institutions can inhibit the emergence of opportunistic and mutually detrimental behavior so that human behavior is easy to predict [2]. Nevertheless, many institutional designs built are not sustainable and cannot become incentives for natural resources preservation.

The problem, often faced in institutional formation, lies in ensuring institutional sustainability and the effectiveness of its management [3,4]. One of the influencing components is the existence of sustainable benefits [5]. Communities will be responsible for natural resources. In addition to clarity of benefits, the



clarity of principles can be a control for resource sustainability. To control the resources, the existence of rigorously regulated rules, regarding the use of resources, through the settings of time, place, and technique applied, and these rulings can explain the allowable number of resources collected.

Ostrom (1990) formulates principles in an institution that can be sustainable. These principles include clarity of territorial boundaries and management, suitability, collective arrangements, monitoring, application of sanctions, conflict resolution mechanisms, recognition of rights to regulate, and part of the management system. The benefits mentioned above are called the principle of suitability, which is in the second principle of Ostrom [6].

Subsequently, the evaluation process played an essential role in ensuring the sustainability of the MDK institutions. Thus, evaluation related to institutional performance is crucial to describe the condition of the implementation of MDK in TNGR based on the principles of institutional sustainability.

2. Methods

2.1. Research time and location

This research was done between April and July 2016, focusing on two villages, i.e., Santong Village, North Lombok Regency and Pesangrahan Village, East Lombok Regency, West Nusa Tenggara, that have been designated by the Mount Rinjani National Park Office as recipients of the conservation village model program.

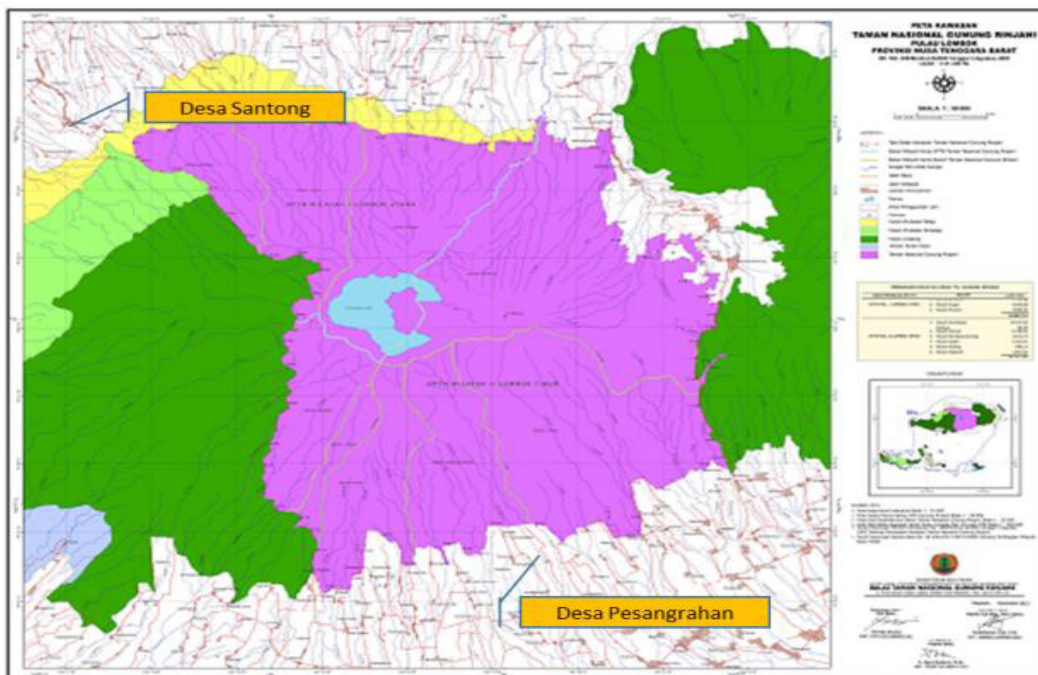


Figure 1. Research site

2.2. Method of collecting data

This research used a case study approach [7]. Research data collection consists of several data collection instruments. These instruments include field observations, in-depth interviews, Focus Group Discussions (FGD), and literature studies [8,9]. This study descriptively describes the institutional performance of MDK implementation using institutional sustainability principles [6].

2.3. Data analysis

The concept of performance evaluation, in this study, was adapted from Peterson and Gijsbers (2003), which stated that institutional performance, defined as the ability of an institution to use its resources efficiently and produce outputs that are in accordance with its objectives and relevant to user needs [10]. Thus, evaluating the institutional performance of MDK in TNGR is carried out by describing the institutional process in implementing the MDK program.

The analytical tools used in the evaluation of the performance of the institution refers to the eight principles of sustainable institutions [6], as follows:

1. Define clear group boundaries. Limitations on resource systems and a number of individuals relate primarily to rights and responsibilities to use forest resources.
2. Congruence between benefits and costs. The rules governing the distribution of costs and benefits of forest resources include labor, material, and money regulations.
3. Users had procedures for making their own rules. It is concerning the intensity of participation in modifying operational rules.
4. Monitoring. The rules governing the process of monitoring activities in PSDH or monitoring of their own.
5. Graduated sanctions. It is regarding the regulation regarding the imposition of sanctions on parties who violate the operational rules.
6. Conflict resolution mechanisms. Regarding the mechanism for resolving PSDH disputes/conflicts, both within the community and between the community and the government.
7. Recognition on the right to manage. It relates to the arrangements that recognize the right of communities to plan their own institutions and not be rejected by government authorities externally.
8. Nested enterprises. Concerning the relationship between operational rules, collective rules, and constitutional rules (appropriation, provisions, monitoring, law enforcement, conflict resolution, and government activities in organizing multiple layers in nested enterprises).

In order to see the application of these principles in the implementation of the MDK, Ostrom's eight principles above were then formulated into an analytical matrix adapted from Sudirman (2016) [5]. The calculation of institutional performance adopts a Likert scale calculation model [11] with a gradation of 1 to 3 as follow:

1 = Not clear/Poor/Rarely/Disagree/Inappropriate

2 = Fairly clear/ Fair/Sometimes/Undecided/Slightly appropriate

3 = Clear/Good/Often/Agree/Appropriate

The calculation results, to determine the scoring value, can be done by calculating the number of the highest and lowest scores such as:

Highest score = Highest item score x total number of questions (3x12=36)

Lowest score = Lowest item score x total number of questions (1x12=12)

Based on the above calculations, the results of data analysis must obtain an average of 3 for the highest score, and the lowest score is 1. The data analysis used a descriptive method and grouped into three categories, namely:

- High institutional performance if the score = 28.01-36.00
- Institutional performance is moderate if it scores = 20.01-28.00
- Low institutional performance if the score = 12.00-20.00

3. Result and discussions

Based on the results of the analysis using these eight principles, the description of the performance of the MDK institutions in TNGR is as follows:

3.1. Clarity of regional boundaries and MDK management in TNGR

According to Ostrom 1990, the clarity of management borderline confirms both the clarity of physical borderline and the clarity of individual rights in management [6]. Thus, this study seeks to describe the borderline owned by the community based on the borderline set out in operational, collective, and constitutional rules.

Based on the results of the analysis conducted on the MDK development document, it shows that the MDK development in the field does not regulate physical boundaries in the utilization of the TNGR area, such as the HKM program and forestry partnerships in protected forest areas. So far, MDK development has only set boundaries in the form of organizational arrangements for implementing MDK. The MDK program focuses on strengthening community capacity, strengthening group capacity, and developing bio-based activities [12].

The clarity of borderline of organizational management administered in constitutional and collective rules in the form of guidelines. These guidelines are to be used to form Regency Apparatus Work Units (SPKP) and MoU between SPKP and the Office of Mount Rinjani National Park (BTNGR). It regulates the rights and obligations of institutions in carrying out the MDK program in the village. However, not all villages targeted for MDK implementation have an MoU as an instrument to explain the borderline of MDK management. It is the case in Pesangrahan Village, which has no mechanism for implementing the MDK program in TNGR.

3.2. Conformity of MDK implementation with community livelihoods in TNGR

The MDK implementation in TNGR was by providing some equipment for the community groups formed by BTNGR. The equipment provided comprised of camping equipment, screen printing equipment, production equipment such as chip processing tools, coffee processing tools, and assistance in the form of ornamental fish. The MoU, agreed upon, states that the business income from this equipment is regulated and managed by the SPKP [13].

Based on field observation, currently, the condition of the equipment is not being taken care of, and many are damaged. To keep the equipment in operation, the group make some contributions to repair and maintain the equipment. However, lack of capital and assistance from BTNGR resulted in many of these aids were left abandoned, and some were utilized by the residents individually. Thus, this is in line with what was stated by Mr. H. M Badri as follows:

“During the implementation of the MDK, some time ago, we were given only ornamental fish seeds. They said, please take care of it. That's it. Even then, after we succeeded in developing it, we were confused about how to market it. Finally, the ornamental fish are not left because we share them with the community and whoever wants to take them is welcome to come home to pick them up”.

On the one hand, the form of intervention provided is considered less in accordance with the community's preferences in utilizing the area. For example, the assistance of camping equipment for the people of Pesangrahan Village, the community considers that the aid is not in accordance with the livelihoods of the surrounding community, where on average, work as farmers and grass seekers in the TNGR area. There was an interesting comment by Amaq Masti during the interview. He stated that upon being asked what type of aid would be proposed by the group, there was a suggestion from BTNGR, which commented that "It's better for you to ask for camping equipment, where the accountability process will be more accessible. Based on that suggestion, the camping equipment was approved.

On the other hand, PERMENHUT No. 67 of 2011 has also provided guidelines for activities supported through conservation village funding, including strengthening community and group capacity, as well as several physical activities, namely [14]:

1. Captive breeding of plants and animals including orchids, pitcher plants, arowana fish, snakes, and birds;
2. Cultivation includes medicinal plants, agarwood, bamboo, rattan, honey bees, silkworms, seaweed, sea cucumbers;
3. Natural tourism services include tour guides, lodging, food service, transportation, and souvenirs.

3.3. *Collective arrangements in the implementation of MDK in TNGR*

In terms of the collective arrangement, the indicators used are the intensity of meetings and community participation in implementing the MDK. In both villages, the meetings were held only at the beginning of the formation of the MDK. The meetings discussed the process of group formation and distribution of MDK aid. Meetings post-formation of the groups and the delivery of aid were rare. The SPKP of Santong management stated that:

“Meetings are rarely held because there is no aid left, and the administrators are busy with their affairs”

It is also the case with the participation of the parties. The participation level was considered very low in the implementation process of the MDK program in both villages. The implementation of MDK activities has been carried out only by the internal SPKP group and coordinated with the BTNGR as an institution that assists the group.

3.4. *Monitoring the implementation of MDK in TNGR*

The monitoring process on the MDK program implementation is regulated based on constitutional rules and collective rules. Both were in the form of guidelines and explicitly stated in the MoU. However, in practice, the monitoring process is not going as expected. Thus, SPKP has never performed the monitoring process in the implementation of MDK. It is also the case with the distribution of aid given to the groups. The national park has rarely monitored the MDK implementation in the two villages that are the targets of the MDK implementation. The head of the SPKP of Pesangrahan Village reinforced this condition by saying that:

“So far, MDK assistance officers from the national park rarely meet us. When they eventually come, they only ask for the report and left”

Performance is not only determined by collective choice arrangements but how the rules made can be controlled and enforced [15]. According to Ostrom (1990) many institutions last a long time because they have low monitoring costs [6]. In addition, Ostrom (2000) states that only a few resource systems can last long without a monitoring process [16].

3.5. *Application of sanctions in the implementation of MDK in TNGR*

The mechanism available for the implementation of the MDK, there is only a mechanism for imposing sanctions on target groups and villages if they are proven to have misused the budget in the form of cessation of aid to both groups and villages [13]. However, no sanction mechanism regulates if there is a violation or abuse of authority by the UPT (BTNGR) in the MDK implementation. Furthermore, at the level of collective and operational rules, there is no explanation regarding the affirmation of the sanctions, including the criteria for violations. Thus, if things happen that are detrimental to the community in the MDK implementation, no mechanism regulates the resolution of these matters. Nugroho (2013) states that the enforcement of rules without sanction application will make the institution useless [17].

3.6. Conflict resolution in the implementation of MDK in TNGR

In the MDK implementation, conflict resolution mechanisms were not described explicitly, either in the constitutional, collective, or operational rules. The means for solving the MDK's problems is mentioned only in the MoU of the coaching process in Santong Village, which states: if there are problems in the MDK implementation, they will resolve them by discussions and consensus. However, it did not further explain the mechanism and stages of solving the problem.

3.7. Recognition of rights in the implementation of MDK in TNGR

In the MDK implementation rules, at the constitutional level, community rights have been regulated. In particular, the rights regarding the utilization of NTFPs, the utilization of environmental services, and natural tourism in the National Park area, especially in the utilization zone. However, the collective and operational rules do not provide further details regarding the forms and mechanisms related to community rights in the utilization of the area. Collective regulations only regulate those related to organizational technicalities in the implementation of MDK, such as the rights and obligations of the management and the coordination mechanism in effect in the MDK implementation. Meanwhile, based on the analysis of community preferences, there is a need for community access for wider land use in the TNGR area that is not limited to the utilization of NTFPs and environmental services.

3.8. Linkages in MDK management system in TNGR

The analysis of the MDK implementation rules at the constitutional, collective, and operational levels show that not all mandates outlined in the constitutional level rules elaborated into the collective and operational levels rules. Some instruments have not been accommodated in the rules at the collective level. Instruments that are not regulated include monitoring mechanisms, and regulations related to the mechanism for community rights in utilizing the TNGR area, in the context of NTFPs, and also relating to the sharing of benefits from the implementation of these activities.

The results also show that the rules that are mandated, at the constitutional and collective levels, are not explicitly elaborated in the operational rules for the implementation of the MDK. Especially in the Pesangrahan Village area, the implementation of the MDK does not describe the constitutional rules at the collective and operational levels. There are no MoUs, functional structures, institutional rules, and planning mechanisms within the group. In the implementation of MDK in Pesangrahan Village, BTNGR has three times formed groups with alternating management to run MDK. Every time there is an aid of the MDK program, there is a tendency for the BTNGR to form new groups and ignore the groups that have previously been formed.

A description of the specific performance of the MDK implementation in TNGR can be seen in Table 1 below:

Table 1. Results of MDK institutional sustainability assessment in TNGR

Principles (Ostrom 1990) [6]	Rating indicators	Grades	
		Santong Village	Pesanggrahan Village
1. Clarity Of Territorial Boundaries And Management	1. Clarity of utilization area in MDK	1	1
	2. Clarity of MDK rules for groups	2	1
2. Suitability	3. Suitability Distribution of costs and benefits	1	1
	4. The conformity of the MDK rules with the economic conditions of the community	2	2
	5. Program suitability with community preferences	1	1
3. Collective Arrangements	6. Meeting intensity	1	1
	7. Participation of group members in every meeting	1	1
4. Monitoring	8. The monitoring process is carried out actively by the group	1	1
5. Application Of Sanctions	9. Clear and enforceable sanctions mechanisms for violators	1	1
6. Conflict Resolution Mechanisms	10. The existence of rules and procedures for conflict resolution	2	1
7. Recognition Of Rights To Regulate	11. Community rights in PSDH get recognition and protection from the government	1	1
8. Part Of The Management System	12. Linkages between MDK rules at the operational, collective, and constitutional levels	2	1
Total Score		16	13

Remarks: Score (12.00-20.00) = Low, (20.01-28.00) = Fair, (28.01-36.00) = High

The evaluation carried out on institutional performance, using eight principles developed by Ostrom (1990) [6], shows that MDK implementing institutions in Santong Village and Pesanggrahan Village are in the low-performance category, with a total score of 16 and 13, respectively. Santong. One of the factors that cause the low performance of MDK institutions is the difference between MDK regulations and the actual situation in the community. On the other hand, the rules set forth at the constitutional level are elaborated clearly in the rules at the collective and operational levels, which ultimately resulted in the intervention given in the implementation of the MDK, not directly touching the community's need for the existence of a national park.

The lack of institutional mechanisms at the collective and operational levels in the implementation of MDK in TNGR also has implications for the uncontrolled implementation of MDK and creates unclear information between the parties involved. This is in line with the head of the Pesanggrahan Village statement. He stated that “*So far we do not know what is being done in MDK activities because BTNGR directly coordinates with the group. Villages are only a place for distribution of aid*”. This expression was

also backed by the Secretary of the Village of Santong, who revealed that “so far the SPKP group has never submitted a report to the village, thus the village does not know the progress of MDK activities”.

This confirms that the current MDK rules cannot guarantee accountability for MDK implementation at the site level. Based on observations, the aids provided within the framework of the MDK program were in a damaged and neglected condition. Some items were stored and used personally by some group administrators without supervision from the village and BTNGR personnel.

Nursidah et. al. (2012) stated that the success of managing an activity, including forest management as a shared resource, is largely determined by the institutional mechanism that is developed. This is simply because a clear institutional mechanism will suppress opportunistic behavior and help direct the parties to achieve common goals [18]. On the other hand, the reciprocal relationship between the community and forest resources is a unity that influences each other, so that area managers need to seek a development model that can combine efforts to conserve ecology as well as fulfill the needs of communities around the forest [19].

4. Conclusion and suggestion

4.1. Conclusion

The implementation of MDK in Mount Rinjani National Park has low institutional performance. Several facts revealed in this study indicate that the implementation of MDK in TNGR has not accommodated several sustainable institutional principles, such as the absence of mechanisms that regulate the clarity of community access to the use of national parks, differences in program interventions with community preferences, and the unavailability of mechanisms for benefit cost-sharing and dispute resolution at the operational level. On the other hand, the institutional formation process, which tends to be instant and does not have a clear mechanism as happened in the implementation of the MDK in TNGR, makes the institutions cannot become solid institutions.

4.2. Suggestion

The Mount Rinjani National Park Office needs to review the approach applied in implementing the conservation village model (MDK) program. Patterns of empowerment in the form of aid by giving physical and material assistance must consider aspects of the basic needs for the sustainability of group institutions, with reference to the eight basic principles put forward by Ostrom. Thus, implementing empowerment through the MDK scheme in TNGR can be run right on target, effectively and efficiently.

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